

KOVACS, Mihaly

Computers for youth. Pt.15. Radiotekhnika 14 no.11;
436-438 N '64.

KOVACS, Mihaly

Computer for the youth. Pt.16. Radiotechnika 14 no.12:
475-476 D '64.

KOVACS, Mihaly

Computers for youth. Pt.21. Radiotechnika 5 no.5:192-193 My '65.

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Computers for youths. Pt.17. Radiotechnika 15 no.1:34-35
Ja '65.

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Computers for the youth. Pt.19. Radiotechnika 15 no.3:116-
117 Mr '65.

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Computers for the youth. Pt. 20. Radiotechnika 15 no.4:150-
151 Ap '65.

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Computers for the youth. Pt.18. Radiotechnika 15 no.2:76-77
F '65.

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Computers for the youth. Pt.22. Radiotekhnika 15 no.6:233-234
Jo '65.

KOVACS, Mihaly

Computers for the youth. Pt.23. Radiotekhnika 15 no.7:274-
275 J1 '65.

KOVACS, Miklos

Radio contact with the space ship. Elet tud 17 no.6:168-171
F '62.

✓ Coal processing industry as a present and future source of phenol in Hungary). László Heréd, Déla Ráskai, and Gyula Kovács (Németvárosi Kutató Intézet, Veszprém, Hungary, Magyar Kém. Lapok 11, 76-8, 1966). — As there is no synthetic PhOH production in Hungary, every avenue of obtaining it as a by-product has to be explored. All phases of the (Hungarian) coal-processing industry were reviewed as current and potential sources for the production of PhOH on an industrial scale.

G. J. Ráskai

gaj

SAVAGE, R.; SAKURAI, H.

EXPERIENCES RELATED TO THE DETERMINATION OF VOLATILE MATTER IN COAL.

p 467 (MAGYAR ENERGIAGAZDASAG) BUDAPEST, HUNGARY VOL. 9 NO 11/12 NOV/DEC 1957

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (AEEI) VOL. 6 NO 11 NOVEMBER 1957

KOVACS, M.
 COUNTRY : Hungary D
 CATEGORY :
 ABS. JOUR. : RZhKhim., No. 1959, No. 85838
 AUTHOR : Takacs, P.; Kovacs, M.
 INST. :
 TITLE : A Classification of Brown Coals of Trans-Danubian Deposits for Their Industrial Evaluation. IV. New Investigations of Coals of *
 ORIG. PUB. : Nehézevegypari kutató int. közl., 1958, 1, No 1-2, 85-92
 ABSTRACT : The quality of Upper Oligocene coals of the Szapari deposit varies widely within individual seams and blocks, as well as throughout the extent of their occurrence. Their principal parameters are (in %): moisture content 15.6-20.5%, ash content 2.63-39.87, content of bitumens 3.8-33.0. By fractional analysis there can be separated, with a yield of about 50%, from run-of-mine coal a concentrate containing 11-12% extractables, consisting essentially of tars. Industrial extraction is of no interest since the composition of bitumens does not include valuable waxes. Because of high yield of gas, low S-content, and ready concentration, the coal is suitable for gasification and coking. Communication III see RZhKhim, 1959, No 20, 72027. -- G. Bonvech.

* Szapari Deposit with High Bitumen Content

Distr: 4E3d 1

Preparation of dibenzoyl peroxide. Béla Ráskai, Miklós Nádasy, Miklós Kovács, Frigyes Honszelmán, and György Szegedi (Nehézevegypari Kutató Intézet, Veszprém, Hung.). Nehézevegypari Kutató Intézet Közleményei 1, 303-5 (1959). — *1959 (NB)*
 Bz₂O₂ (I) was prepd. at a 80-5% yield by adding to a mixt. of BaCl₂ (II) and 10% H₂O₂ soln. cooled to 5°, in small increments, 33% NaOH soln., allowing the temp. to increase to 20°, and stirring 3-4 hrs., with a high-speed stirrer. The crude I [contg. approx. 10% water, 5% benzoic acid (III), and NaCl] was purified by washing with 1:1 MeOH-water, filtering, and drying by aeration with hot air. The yield was low owing to the fact that the NaOH caused part of the II to hydrolyze into III. By using Na₂CO₃ instead of NaOH at a pH < 12, prepn. of 99.0% pure I was possible at a 92-5% yield. To a mixt. of Na₂CO₃ soln. and (excess) H₂O, II was added under stirring and the resulting crude I was purified as described above. The method was successfully used in the lab. and in pilot plant.
 G. J. Brayel

KOVACS, Miklos (Veszprem); RASKAI, Bela (Veszprem)

Selective extraction of diphenols from lignite tar oils by methanol.
Kem.tud.kozl.MTA 12 no.4:395-403 '59, (KRAI 9:4)

1. Mehezvegyipari Kutato Intezet, Veszprem.
(Phenols) (Lignite) (Tar oils) (Methanol)

EDVACS, Miklos, Dr. (Veszprem, Martha Vince u.l-3.); BASKAI, Bela (Veszprem, Martha Vince u.l-3.)

Data on the selective extraction of diphenols from brown coal-tar oils by means of processing with methanol. In German. Acta chimica Hung. 21 no.3:277-287 '59. (EBAI 9:5)

1. Research Institute for Heavy Chemical Industry, Veszprem, Hungary.
(Extraction (Chemistry)) (Phenols) (Lignite)
(Coal tar) (Methanol)

KOVACS, Miklosne (Veszprem)

Determination of coal deposits from the Eocene period in Central
Dunantul from the points of view of coal chemistry and coal tech-
nology. Kem tud Coal MTA 16 no.1:118-119 '61.

1. Nehézvegyipari Kutató Intézet, Veszprem, Hungary.

(Geology, Stratigraphic) (Hungary—Coal)

KOVACS, Miklos

Synthesis of cyclopentadien from dicyclopentadien. Magyar kem
folyoir 68 no.8:366-372 Ag 162.

1. Nehezvegyipari Kutato Intezet, Veszprem.

FRANK, Miklos, dr., főorvos; GARTAI, Ivan, dr.; KOVACS, Miklos, dr.

Comparative investigations relating to the treatment of acute hepatitis by drinking medicinal waters. Hidrológiai Közlemények 37 no.2:174-177 1957.

1. Országos Reuma és Füzdógyi Intézet (Igazgató főorvos: Dr. Dubovits, Dénes, tudományos vezető: Dr. Schulhof Odon, kandidátus) III. Belosztálya.

RIJUS, L.; KOVACS, M.; NYIREDY, G.

Investigation on pleural absorption and secretion of PAS. Tuberk.
kardesei 4 no.4:10-11 Dec 51. (CIML 21:5)

1. Doctors. 2. Clinic of Pulmonary Diseases (Director--Prof. Dr.
Ferenc Kovacs), Budapest University.

KOVACS, M.

KOVATS, F.; KOVACS, M.

The effect of streptomycin on the cyclic development of tuberculosis.
Orr. hetil. 93 no. 13:395-397 30 Mar 1952. (CML 23:3)

1. Doctors. 2. Clinic for Pulmonary Diseases (Director -- Prof. Dr.
Ferenc Kovats), Budapest Medical University.

KOVACS, M.

NYIREDY, G.; KOVACS, M.; HUNYADI, G.; ROKA, J.

Experiences in the treatment of tuberculous empyema with isonicotinic acid hydrazide. Orv. hetil. 93 no. 45:1284-1285 9 Nov 1952. (GLML 24:1)

1. Doctor for Nyiredy, Kovacs, and Hunyadi. 2. Clinic for Pulmonary Diseases (Director — Prof. Dr. Ferenc Kovacs), Budapest Medical University.

KOVACS, M.

NYIREDY, G.; EIDUS, L.; KOVACS, M.

Local antibiotic therapy of tuberculous empyema. Orv. hetil. 94 no. 45:
1248-1251 8 Nov 1953. (CJML 25:5)

1. Doctor. 2. Tuberculosis Clinic (Director -- Prof. Dr. Ferenc Kovacs),
Budapest Medical University.

KOVACS, Miklos, dr.,; DEMJEN, Vilmos, dr.

Giant echinococcal cyst of the lung simulating a tumor.
Tuberk. kerdesei 7 no.6:38-39 Dec 54.

1. A Budapesti Orvostudományi Egyetem Tudományegyetemi klinikájának
(igazgató: Kovacs Ferenc dr. egyetemi tanár) közleménye.

(LUNGS, diseases

echinococcosis, giant cyst simulating tumor (Hun))

(ECHINOCOCCOSIS,

lungs, giant cyst simulating tumor (Hun))

KOVACS, Miklos

Magnetohydrodynamic electric power plant. Elet tud 18 no.11:
343-346 17 Mr '63.

KOVACS, Miklos

Questions and answers on the microwave "centimeter." Elet
tud 18 no.13:403-406 31 Mr '63.

KAROLYHAZY, G., dr.; KOVACS, E., dr.; KOVACS, M.B., dr.

New aspects in the therapeutic application of sulphamethoxypyridazine.
Ther. hung. 10 no.3/4:33+35 '62.

1. Sandor Karolyi Hospital, Internal Department No. I, Laboratory
of Karoly Robert korut Hospital of the Municipal Council in District
XIII, Hospital in Szovetseg utca, Internal Department, Budapest.
(SULFAMETHOXYPYRIDINE)

PAPP, M.; Technische assistentin: KOVACS, Marianne T.

On the examination of the renal lymph following ureteral obstruction.
Acta med. acad. sci. hung. 19 no.2:127-136 '63.

1. Abteilung für Pathophysiologie (Direktor: Prof. L. Rusznyak),
Forschungsinstitut für Experimentelle Medizin der Ungarischen
Akademie der Wissenschaften.

(KIDNEY) (LYMPH) (URETERAL OBSTRUCTION)
(BLOOD VOLUME DETERMINATION)

KOVACS, O.

1529. Kovacs, O. Distribution of loads on derrick bridges between different planes in the structure (in Hungarian), (tép 7, 9, 33-338, Sept. 1955).

Truss bridges with head girders and auxiliary girders are statically multiply indeterminate space structures. The methods of calculation generally used reduce the construction usually to statically determinate girders. This leads to overdimensioning and wrong mass distribution. In this case the reserve of loading capacity is disproportioned in the different elements, some of them may be overloaded.

Author tries to approximate the real loading of the elements by taking account of the fact that the bridge structure is also submitted to torsion due to the loading. The center of torsion is determined by the assumption of the equal deflection of the auxiliary and head girders after transposition of loading forces. Once given the center, the deflecting forces loading the two vertical trusses and the moment of torsion acting on the bridge can be determined. The loadings in each plane caused by the torsional moments are determined also by conditions of deformation and the loadings caused by deflection and torsion are superposed. The conditions of deformation used in the determination of torsional loadings are not verified correctly, but author refers to a series of measurements to be published in a subsequent article which, according to his opinion, will confirm his theory.

Some principles of construction drawn from the theory are given at the end of the paper.

The merit of the paper lays in pointing out a more approximate method of calculating the real loadings of crane bridges with auxiliary girders. Nevertheless, the theory of determination of the torsional loadings requires further detailed investigations.

G. Pataky, Hungary

MT

KOVACS, O.

Distribution of load on a crane bridge between the plane of the main beam and that of the secondary beams. p. 441.
Vol 7, no. 12, Dec. 1955. GEP. Budapest, Hungary.

So: Eastern European Accession. Vol 5, no. 4, April 1956

CA KOVACS, O.

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Preparation of some new quinoxaline derivatives. (Don Kevics and Miroslav Tomboš, J. Haasid, Hung.). *Acta Univ. Szeged., Chem. et Phys.* 8, 35-7 (1960) (in English). In the prepn. of 1-aryl-2-(alkylamino)quinoxaline several quinoxaline deriva. were prepd. Quinoxaline, m. 27°, was obtained in 1.54-g. yield, by refluxing 5.8 g. glyoxal and 40.8 ml. Ac₂O 22 hrs., cooling, filtering, dissolving the cryst. in EtOH, treating with o-C₆H₄(NH₂)₂, and distg. the only product in vacuo at 222°. 2,3-Dichloroquinoxaline, m. 165°, was obtained in 8.4-g. yield by dissolving 10.2 g. dihydroxyquinoxaline and 41.2 g. PCl₅ in sufficient PCl₃ for complete soln., refluxing 2 hrs., removing the excess solvent by distn. in vacuo, pouring the residue into ice water, and crystg. from EtOH. 2-(m-Methoxyphenyl)quinoxaline, m. 45°, was obtained in 13.8-g. yield by adding 13.8 g. Me₂SO, to 22.2 g. 2-(m-hydroxyphenyl)quinoxaline (I), dissolving in aq. NaOH, shaking, and recrystg. several times from EtOH. 2-(m-Acetoxyphenyl)quinoxaline, m. 117°, was obtained in 24-g. yield by boiling 22.2 g. I in 11.2 g. Ac₂O 4-5 hrs. on a water bath, removing the excess solvent and AcOH by distn. in vacuo, and cooling. 2-(m-Benzoyloxyphenyl)quinoxaline, m. 118°, was obtained in 23.7-g. yield by adding 22.2 g. I in abs. EtOH to an alc. soln. of metallic Na contg. 2.3 g. PhCl, boiling 5 hrs. on a water bath, cooling, and recrystg. from EtOH. 2-(m-Benzoyloxyphenyl)quinoxaline, m. 163°, was obtained in 20.0-g. yield by adding 15.4 g. BzCl to 22.2 g. I in an aq. soln. of 4.0 g. NaOH, shaking, and crystg. from EtOH. The following 2-substituted quinoxalines were prepd. by similar procedures: (p-Methoxyphenyl), m. 102°; (p-Acetoxyphenyl), m. 125°; (p-Benzoyloxyphenyl), m. 130°; (p-Benzoyloxyphenyl), m. 120°; (3,4-Dimethoxyphenyl), m. 172°; and (3,4-Dibenzoyloxyphenyl), m. 118°. I. P.

KOVACS, O.

Synthesis of DL-noradrenaline and of related amino alcohols with a primary amino group. Gábor Fodor, Odon Kovács, and Tibor Mécher (Univ. Szeged, *Mag. Chim. Szeged*, *Sz. Hung.*, 1, 393-402 (1951) (in English)). A new synthesis of Adrenaline and of related *N*-substituted amino alcohols, starting with hydroxyaryl glyoxals was extended to noradrenaline and similar compounds. p -HOCH₂COCH₂NH-CH₂Ph (I), m. 131-2°, was prepd. by reducing p -HOC₆H₄COCHO hydrate in its KHSO₅ addn. product with Raney Ni in the presence of PhCH₂NH₂. The products were identical and the yields were 82 and 70%, resp. Reduction of I with Raney Ni gave PhCH₂NHCH₂CH(C₆H₄OH)-p-OH (II), m. 128-9°. Norepinephrine, m. 177-8°, was obtained in excellent yields by reducing (Pd-C) the HCl salts of I or II. A mixt. of PhCH₂NH₂ (0.078 mole) and 3,4-(HO)-C₆H₃COCHO (0.01 mole) was reduced over prehydrogenated Raney Ni to give a 73% yield of 3,4-(HO)-C₆H₃COCH₂NHCH₂Ph, m. 147-8°; HCl salt (III), m. 220-1°. Reduction of II over Pd-C gave noradrenaline (82% yield), m. 184-5°. A mixt. of 3,4-MeO(HO)-C₆H₃COCHO.KHSO₅ and PhCH₂NH₂ was reduced (Raney Ni) to give 73% 3,4-MeO(HO)-C₆H₃COCH₂NHCH₂Ph.HCl (IV), m. 221-2°. Reduction (Pd-C) of IV gave H₂NCH₂CH(OH)C₆H₃(OH)-OMe-3,4.HCl, m. 162-3°. 3,4-HO(MeO)-C₆H₃COCHO (V), m. 120°, was prepd. by refluxing 3,4-Ac(MeO)-C₆H₃COAc with SeO₂. 2-(3-Hydroxy-4-methoxyphenyl)-quinoxaline, m. 142-3° (from dil. EtOH), was prepd. from V and t-C₄H₉(NH₂)₂ in hot aq. soln. Reduction (Raney Ni) of V with PhCH₂NH₂ gave 3,4-HO(MeO)-C₆H₃COCH₂NHCH₂Ph (VI), m. 220° (from EtOH). Lower yields were obtained with the glyoxal in stock soln. H₂NCH₂CH(OH)C₆H₃(OMe)₂.HCl, m. 170-1° (from MeOH-Et₂O) was prepd. by reducing (Pd-C) VI in EtOH. A mixt. of p -HOC₆H₄COCHO.KHSO₅ and Et₃NH absorbed 1 mole of II (Raney Ni), but only a hydroxy ketone, presumably p -HOC₆H₄COCH₂OH, was obtained. W. T. S.

KOVACS, O.

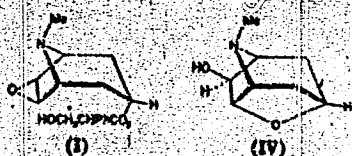
The synthesis of tetrahydroquinoline alkaloids under physiological conditions (J. Kovacs and Gábor Pálor (Univ. Szeged, Hung.), *Chem. Ber.* **94**, 705-80 (1961)) — Because salutarin (I) always occurs in the plant as a racemate and is therefore previously heated without the action of enzymes, an attempt is made to synthesize I from 3,4-dihydro-2H-chromene (II) under physiological conditions. Adding 40 g. PhCH_2NH_2 to 45 g. 3,4-dihydro-2H-chromene (II) in 100 cc. CH_2Cl_2 , in 100 cc. H_2O , making up the soln. to 300 cc. with 85% EtOH, adding this soln., dropwise and with stirring in such a way that 1 mol. II is consumed, to 75 g. Raney Ni in 200 cc. 85% EtOH previously satd. with HCl, at 45°, acidifying the filtered soln. with 0.52 mol. alc. HCl, cooling, the soln. is vacuum at 50° to 150° C., and heating it 24 hrs. give 75% 3,4-dihydro-2H-chromene (III) in 300 cc. HCl (III), m. 220°. Hydrogenating 15.4 g. III in 300 cc. 95% AcOH in the presence of 5 g. 10.5% Pd-charcoal unit 3 mols. II are hydrogenated (18 hrs.), adding 3 cc. 70% HClO_4 in 30 cc. AcOH, and continuing the hydrogenation until 3 mols. II are consumed, adding 3 cc. 70% HClO_4 at 85° cause the absorption of a 3rd mol. II in 6 min. KOAc in AcOH equiv. to the amt. of HClO_4 used is added to the hot filtered soln., which is filtered again, acidified with 5 cc. concd. HCl, and evaporated in vacuo, giving 94% 3,4-dihydro-2H-chromene (IV), m. 203-4° (picrate, orange-yellow crystals, m. 197-8°). Adding 104 g. 3,4-dihydro-2H-chromene (IV) to 100 cc. AcOH, according to a slightly modified form of the method of Schneider and Kraft (C. 4, 17, 85), to 55 g. SeO_2 dissolved in 400 cc. dioxane and 10 cc. H_2O at 60°, refluxing the mixt. 6 hrs., evap. the filtered soln. in vacuo, stirring the residue 10 hrs. with 940 cc. H_2O on the water bath, and concg. the soln. give 4. strip contg. 60.5% 3,4-dihydro-2H-chromene (V), semicrystalline, m. 120°. Adding 1.2 g. $\alpha\text{-C}_6\text{H}_4\text{N}(\text{H})_2$ in 10 cc. 85% EtOH to 1.8 g. V in 10 cc. H_2O gives 2.18 g. 2,3-dihydro-4-methyl-2,3,4-tetrahydroquinoline, m. 142-3°. Refluxive condensation of 16.4 g. 2,3-dihydro-4-methyl-2,3,4-tetrahydroquinoline (VI) with 25 g. Raney Ni 45 min. at 45° as described above gives 3.6% 3,4-dihydro-2H-chromene (VII), which (15.4 g.) on further hydrogenation, is converted into 92.5% HCl (VII), m. 190-7° (picrate, orange-yellow crystals, m. 202-3°). HCl (VII) IV 3,4-dihydro-2H-chromene (IV) and 3,4-dihydro-2H-chromene (VII) are condensed with AcH under conditions used by Schopf and Bayerle (C. 4, 29, 1420). A soln. of 0.0125 mol. amine in 20 cc. H_2O and 25 cc. AcH is made up to 25 cc., kept 72 hrs. at 20° with the AcH content detd. every 24 hrs., recond. in vacuo at 20°, and a part converted into the picrate and the other part recryst. Whereas VIII gives 70% dielder, di-

hydroxy-1-methyl-1,2,3,4-tetrahydroquinoline (uncondensed), m. 181-2° (picrate, m. 201.5-0.5°), and II gives 80% HCl , m. 147-9° (picrate, m. 180-0.1°). F. E. Braun. VII give no condensation product.

KOVACS DON

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The stereochemistry of the tropane alkaloids. III. The configuration of scopolamine and of its isomer, scopolamine. J. Kádár and Odon Kovács (Univ. Szeged, Hung.). J. Chem. Soc. 1953, 2511-15; C. C. A. 48, 2080. Scopolamine (I) was converted by hydrogenolysis with Raney Ni at 150 atm. and 25° and hydrolysis of the ester-Br mlt. into (+)-3,5-dihydroxy tropane (II), m. 179-80° [HCl salt, m. 205°; III salt, m. 207° (decomph.)], and (-)-tropic acid, m. 126-7°, [α]_D²⁰ -74° (c 2, H₂O). This hydrolysis was carried out by refluxing 18 hrs. with 10% HBr or 10% HCl or 2 hrs. with Ba(OH)₂. The dibenzoate of II, m. 268°, could not be resolved by use of α-bromo-(+)-camphor-sulfonic acid or (+)-tartaric acid. II was resolved with (+)-tartaric acid [II (+)-tartrate hydrate, m. 180-1°, [α]_D²⁰ 14.43°], giving (+)-II, m. 209-10°, [α]_D²⁰ 24.14° (c 0.988, EtOH) (picrate, m. 231-2°), as well as the (-)-isomer from the mother liquors, m. 209°, [α]_D²⁰ -23.31° (c 2.038, EtOH). Resolution of II was also achieved with (levorotatory) O,O'-dibenzoyl-(+)-tartaric acid, thus yielding (-)-II, m. 210°, [α]_D²⁰ -24.33° (c 2.013 EtOH), identical with the alkaline from valerolone (III) (C. A. 47, 8757c). I and III are both β-oriented at C-3 since III forms a cyclic urethan and, since scopolamine (IV) can be formed from I by LAALH, reduction only if the OH group at C-3 group in the latter is α-oriented with respect to the N bridge.



K. C. Schreiber

KOPALS, C. H. W.

The configuration of scopolamine. Galan, Podar and Chlou, K. (Univ. Szeged, Hung.). Magyar Kem. Folyóirat 4, 233-236 (1953). Scopolamine was converted by hydrolysis into *dl*-3,6-dihydroxytropine and then resolved into the *d*- and *l*-forms. The latter proved to be identical with the alk. component of valeroidine. Scopolamine and valeroidine are both considered as having the *syn* (*d*) configuration in respect to C-7, since norvaleroidine forms a cyclic urea with the C-7 HO and the ring N. Since cocaine can be formed from scopolamine only if the latter's C-3 HO is *anti* (*a*) to the ring N, the *C*-configuration of valeroidine must be the same as in scopolamine and tropine.

István Finály

① 11/1/54

1564125, O.D.O.W.

The synthesis of 1-(*p*-hydroxyphenyl)-3-(*butylamino*)ethanol. Odon Kovacs (Univ. Szeged, Hung.), Pharm. Zentralblatt 1953, 1953. A filtered soln. of 260 g. NaCN (98%) in 500 cc. H₂O added dropwise during 2 hrs. to a filtered soln. of 133 g. *n*-C₄H₉NH₂·HCl in 500 cc. 34% formalin with vigorous stirring (reaction temp. 0°), the mixt. stirred an addnl. 1 hr., then treated with 100 g. NaCl, acid. with 3x500 cc. C₂H₅, the C₂H₅ exts. washed with four 200 cc. portions H₂O, dried (anhyd. MgSO₄, 24 hrs.) and C₂H₅ distilled at 80° in vacuo yielded 661 g. (*butylamine*)acetonitrile (I). I dissolved in 140 cc. abs. EtOH,

the soln. stirred vigorously (reaction temp. held at -5 to 0°), and treated dropwise during 1 hr. with 450 cc. aq. HCl (36.5%), the mixt. then treated with 80 cc. anhyd. Et₂O, stirred an addnl. hr., let stand 2 days in a refrigerator, finally cooled to -15° and the crystals filtered through a glass filter (cooled with CO₂-snow), dried at room temp. in a desiccator yielded 472 g. (63%) I·HCl, very hygroscopic white crystals, m. 95-6°. Tech. anhyd. AlCl₃ (670 g.) dissolved in 1200 cc. anhyd. PhNO₂, the soln. stirred and cooled to 35°, treated with 210 g. PhOH, stirred 1 hr., then 225 g. I·HCl was added in 1 portion (reaction temp. 25°) after which HCl gas was introduced during 12 hrs. (12 l./hr.) (reaction temp. held at 20-30°), let stand 24 hrs., and the mixt. poured during 1 hr. into 1300 cc. H₂O while stirring, stirred an addnl. 1 hr., let stand in a refrigerator 24 hrs., the resulting crystals filtered off, washed with three 300 cc. portions cold Me₂CO, dried at 50° yielded 610 g. product, recrystd. by dissolving in 3000 cc. hot H₂O, the soln. decolorized with C for 30 min. at 90°, filtered through a heated funnel and the filtrate cooled yielded 242 g. (66%) *p*-hydroxy- α -(*butylamino*)acetophenone-HCl (II), pale yellow crystals, m. 215-20°, recrystd. from hot H₂O containing lactic acid (15%) and C (5%) followed by addn. of concd. HCl to the mother liquor yielding pure II, m. 228-8° [analytical sample, m. 231° (from H₂O)]. II treated with NH₃ to pH 8 yielded *p*-hydroxy- α -(*butylamino*)acetophenone, m. 119-20°. II (128 g., m. 215-20°) in 600 cc. H₂O was reduced in 12 hrs. with Raney Ni at room temp. and atm. pressure, the catalyst filtered off and the filtrate decolorized with 4 g. C, filtered, the filtrate cooled, stirred, and treated dropwise with 10% NH₄OH (about 200 cc.) to pH 9 yielded an oil which gradually crystal., let stand several hrs., the product filtered, washed with ice H₂O until free of chlorides, and dried in a desiccator at room temp. yielded 58 g. (81%) 1-(*p*-hydroxyphenyl)-3-(*butylamino*)ethanol, m. 123-4°.

Nathan Levin

KOVACS, O.

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V Stereochemistry of tropane alkaloids. IV. Configuration of cocaine. O. Kovacs, G. Podor, and I. Veliz (Univ. Szeged, Hung.). *Mon. Chem. Acta* 37, 892-906 (1954) (in German); cf. C.A. 48, 11437d. The configuration of cocaine is definitely determined as (-)-2S-carboxanthoxy-3S-6-azobenzoylpropane. 2S-Hydroxymethyl-3S-tropanol-HCl, m. 265-70°, $[\alpha]_D^{25}$ -37.3 (H₂O), is added during 15 min. to SOCl₂, yielding on working up the 2S-chloromethyl-3S-tropanol-HCl, m. 208-9° (decompn.), $[\alpha]_D^{25}$ -60.2 (c 2.11, H₂O) (free base (I), m. 76-8°, solidifying again at 50-51° and again m. 218-24° (decompn.), $[\alpha]_D^{25}$ -67.5° (c 2.01, EtOH); 3S-AcO analog-deriv. HCl, m. 268° (decompn.), $[\alpha]_D^{25}$ -59° (c 2.007, H₂O)). I does not react with HCl at room temp. I acetate-HCl dissolved in C₆H₆ was heated on a steam bath for 4 hrs., yielding unreacted starting material. The HCl salt of the isomer, either of 2S-6-azobenzoyl-3S-tropanol (II), m. 223-3°, $[\alpha]_D^{25}$ -86.8° (c 1.50, H₂O) (picrate, m. 246-7° (decompn.)), is prepared by heating I in C₆H₆ on a steam bath for 2 hrs. or heating I in the absence of moisture to 120° or refluxing I-HCl in EtOH containing NaHCO₃ for 10 hrs. II is not affected by Raney Ni at 40 atm. at 80° for 5 hrs., but on treatment with conc. HCl in a sealed tube at 121° I-HCl is obtained in 47% yield. A soln. of NaOEt in EtOH and II was refluxed

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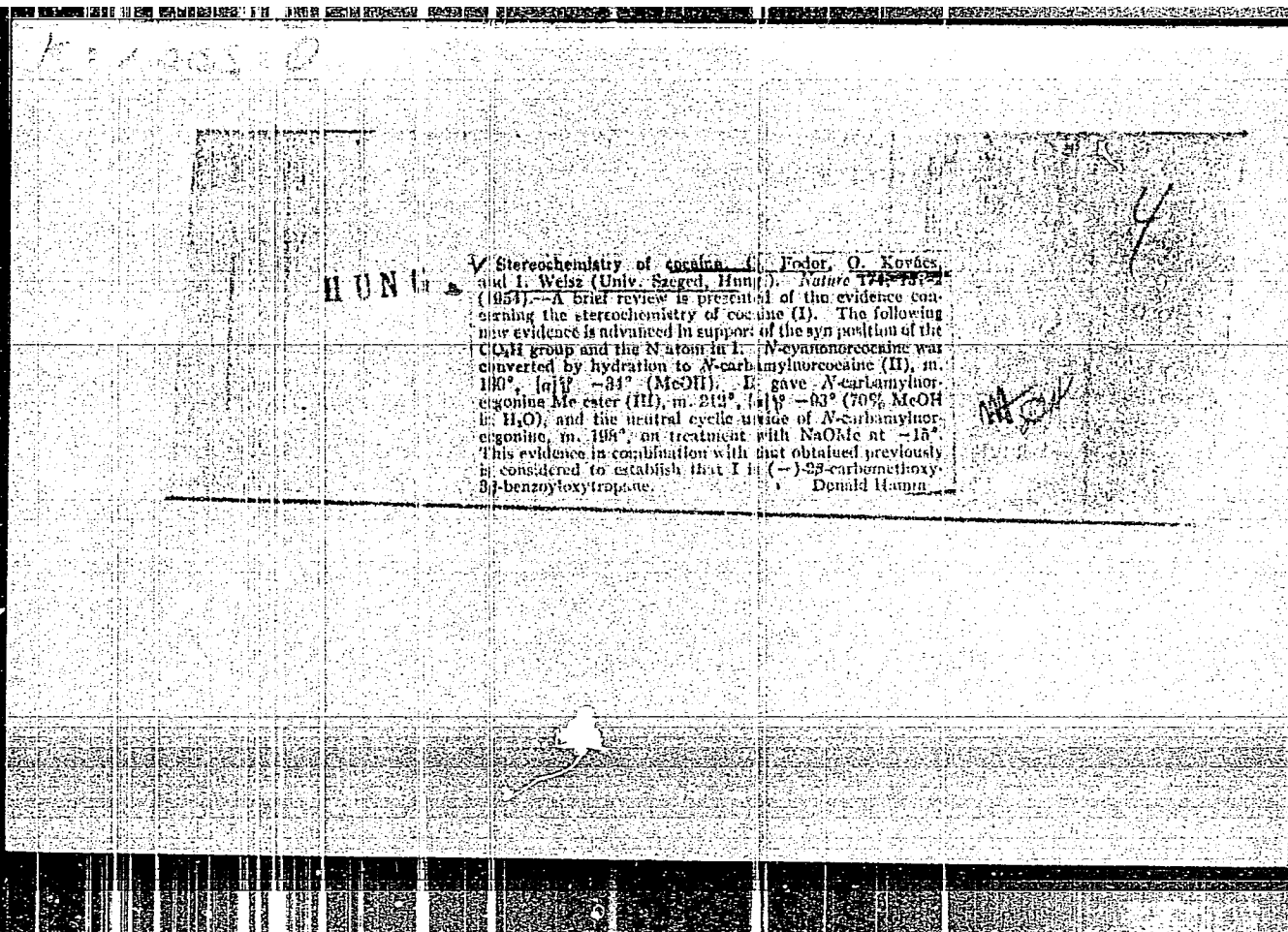
for 3 hrs., yielding a compd., b.p. 143-4°, $[\alpha]_D^{25} -38.7^\circ$ (c 2.107, EtOH), probably a mixt. of 2 isomers of the mono-Et ethers of argentinol. Reaction of II with NaOH gave a mixt. of C-11 epimers of 2-hydroxy-3-tropanol. I.HCl in MeOH was treated with NaOMe, hydrogenated with Pd-C at 15°, yielding 28-methyl-38-tropanol-HCl (III.HCl) (98%), m. 205-6° (decompn.), $[\alpha]_D^{25} -38.5^\circ$ (c 2.787, H₂O) (free base, m. 56°, $[\alpha]_D^{25} -58.2^\circ$ (c 2.164, EtOH); 38-AcO analog deriv., oil; 38-AcO analog-HBr, m. 203-4°, $[\alpha]_D^{25} -39^\circ$ (c 2.638, EtOH); N-methiodide, m. 300° (decompn.), $[\alpha]_D^{25} 2.5^\circ$ (c 2.002, H₂O)). To a soln. of redist. BrCN in C₆H₆ is added 28-methyl-38-acetoxytropan: at 60° and kept at that temp. for 3 hrs., concd., yielding cryst. 28-methyl-38-acetoxytropan-HBr and an oil, which after hydrolysis with NaOH at 100° and working up gave nor-18-methyl-38-tropanol (IV), m. 103-6°, $[\alpha]_D^{25} -57.0^\circ$ (c 2.062, EtOH) (HCl deriv., m. 255-6° (decompn.), $[\alpha]_D^{25} -4.5^\circ$ (c 2.182, H₂O); N-Bz deriv., m. 177-8°, $[\alpha]_D^{25} 19.1^\circ$ (c 2.14, dioxane)). IV in PhCl, satd. with CO, is treated with p-nitrobenzaldehyde, heated in oil bath to 142°, PhCl distd., dried with MgSO₄, and put back into reaction flask, heated for 3 hrs. at 100°, PhCl distd., and the residue crystal, yielding p-nitrophenyldehydro-m-cuzzine deriv. of IV, m. 77-7°, $[\alpha]_D^{25} 3.5^\circ$ (c 2.008, C₆H₆), which on treat-

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 ment with HCl in EtOH gave back IV. Oxidation of III with (iso-PrO)₂Al and cyclohexanone gave 2 α -methyl-3-tropane, bp 125-6°, [α]_D²⁵ -25.6° (c 2.041, abs. EtOH) [HCl salt, m. 100-1°, [α]_D²⁵ -12.5° (c 2.003, H₂O); oxime (V), m. 180-1°, [α]_D²⁵ -41.5° (c 2.005, abs. EtOH)]. V in H₂ brought to pH 1.0 was heated on a steam bath and then treated with a soln. of picric acid in 26% EtOH, yielding on concn. 2 α -methyl-3-tropane picrate, m. 213-14°, from which the parent compd., m. 190-1°, [α]_D²⁵ 6.15° (c 1.234, H₂O), was obtained. Treatment of 2 α -hydrixyethyl-3 β -tropanol-HCl with SOCl₂ for 15 min. at 25°, yielding 2 α -chloromethyl-3 β -tropanol-HCl, m. 263-4° (decolor.), [α]_D²⁵ 38.8° [free base (VI), m. 95-8°, [α]_D²⁵ 67.7° (c 2.074, abs. EtOH); methiodide, m. 239° (decolor.), [α]_D²⁵ 4.5° (c 2.002, H₂O)], which on reduction with Raney Ni in MeOH at 50 atm. pressure and 60° for 2 hrs. gave 2 α -methyl-3 β -tropanol-HCl, m. 251-2° (decolor.), [α]_D²⁵ 33.5° (c 1.703, H₂O) [free base, [α]_D²⁵ 35.5° (c 2.206, abs. EtOH); methiodide, m. 294°, [α]_D²⁵ 27° (c 2.004, H₂O); acetate MB, m. 162-4°, [α]_D²⁵ 49.3° (c 1.943, abs. EtOH)]. VI in refluxing in C₆H₆ for 4 hrs. gave unchanged VI. When 2 α -methyl-3 β -acetoxytropine was treated with BrCN, N-cyano-2 α -methyl-3 β -acetoxytropine, m. 78-81°, [α]_D²⁵ 52° (c 2.101, abs. EtOH), was obtained, which on hydrolysis with aq. NaOH at 100° for 12 hrs. gave nor-2 α -methyl-3 β -tropanol (VII), m. 124-5°, [α]_D²⁵ 50.5° (c 2.061).

abn. alc.) *p*-nitrophenyl-*m*-oxazone deriv. (VIII), m. 161-162°, $[\alpha]_D^{25} +8.5^\circ$ (c 2.010, abs. C₆H₅); *N*-Ba deriv., m. 141-2°, $[\alpha]_D^{25} -8.45^\circ$ (c 1.42, dioxane). Treatment of VIII with 2% HCl gave VII. Oxidation of 2 α -methyl-3 β -trypaone with CrCl₃ in glacial HOAc gave 2 α -methyl-3 β -trypaone (HCl deriv., m. 101-2°, $[\alpha]_D^{25} +8.25^\circ$ (c 2.430, H₂O); oxime, m. 151-2°, $[\alpha]_D^{25} -38.2^\circ$ (c 1.050, abs. alc.)). The *N*-Ba deriva. of IV and VII each underwent acyl migration when treated with 2*N* HCl in dioxane to give the amino ester salt, m. 270° (decomp.), $[\alpha]_D^{25} -47.5^\circ$ (c 0.88, H₂O), and m. 235° (decomp.), $[\alpha]_D^{25} +53.4^\circ$ (c 1, H₂O), resp. *N*-Benzoylnorecegonine also gave acyl migration in HCl-dioxane to yield *O*-benzoylnorecegonine-HCl, m. 225-6°, $[\alpha]_D^{25} -45^\circ$ (H₂O). *N*-Granconorecegonine in glacial HOAc was treated with concd. H₂SO₄ for 1 hrs., at room temp., H₂O added and the solid treated with aq. 2*N* K₂CO₃ to yield *N*-carbaminorecegonine, m. 179-80°, $[\alpha]_D^{25} -27.5^\circ$ (MeOH), which was reacted with NaOMe in MeOH at -16° for 84 hrs. to yield the *As* ester, m. 212°, $[\alpha]_D^{25} -53.5^\circ$ (70% MeOH), and the cyclic *arside*, m. 198°, $[\alpha]_D^{25} -1.5^\circ$.

The determination of the configuration of the tropane alkaloids containing oxygen functions attached to the pyrrolidine ring: G. Fodor, J. Tóth, and I. Vincze. *Ibid.* 9:7-13. A new method for establishing the configurations of amino alcs. with a tertiary N atom is outlined. Telodrine (I), *dl*-cocaine (II), and *dl*-3,6-dihydroxytryptamine (III) for-

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 nated by reaction with $\text{ICH}_2\text{CO}_2\text{Et}$ (IV) the salts of the
 corresponding lactones of the *N*-carboxymethyl deriv., in-
 volving OH groups at C-6 and/or -7. The syn (2) position
 of these groups is therefore proved. II dissolved in C_6H_6
 and treated with IV gave the lactone of *N*-carboxymethyl-
 scopoline iodide (V), m. 248° , which on shaking with aq.
 Ag_2O gave the lactone of *N*-carboxymethylscopine, m. 260°
 (decomp.), reconverted to the lactone with III. Scopol-
 amine $\text{HBr} \cdot 3\text{H}_2\text{O}$ in H_2O treated with NaHCO_3 , catd. with
 CHCl_3 and dried over MgSO_4 yielded amorphous scopol-
 amine, which on treatment with IV gave *N*-carboxymethyl-
 scopolamine iodide, m. 185° , which on refluxing with 10%
 HCl gave V. II with IV gave the iodide of di-*N*-carboxy-
 methyl 3a,6a-dihydroxytropone, m. 259° (decomp.), which
 on treatment with AgNO_3 gives the lactone of *N*-carboxy-
 methyl 3a,6a-dihydroxytropone, m. 280° (decomp.). I
 with IV gave *N*-carboxymethyltelodine iodide, m. 204°
 and a fraction, m. $255-58^\circ$, which on treatment with Ag_2O
 gave the lactone, m. 252° , which on treatment with III
 gave the iodide of di-*N*-carboxymethyltelodine lactone, m.
 259° (decomp.). Telodine in water oxidized with
 periodic acid utilized one mole of HIO_4 , while the lactone did
 not react with HIO_4 .
 Kurt C. Schreiber



Korács, Odón

V. Korács, LXVII. Hydrogenation products of santonin and analogues. Odón Korács, Václav Heger, Milan Horák, and František Šorm (Czech Acad. Sci., Prague). Chem. Listy 49, 1838-39 (1955); cf. C.A. 50, 8320c.
Hydrogenation of santonin (I) under various conditions gave 1,2,3,4,5,6,11-santonolides (II) belonging to 3 stereoisomeric groups (IIa, b, and c). More intensive hydrogenation yielded 3-hydroxy-5,12-santonolides (III). The II were transformed to 5,12-santonolides (IV), either by the Clemmensen reduction (which caused a rearrangement from the series c to a), or via ethylene thioketals (V) by desulfuration with Raney Ni. Reduction of IV with LiAlH₄ gave 5,12-santonol (VI); reduction of 5,12-santonolide (elanolactone) (VII) gave 5,12-elanolol (VIII). The diols VI and VIII were purified by way of their cyclic sulfites (IX, X). Dehydration of VI yielded 5,12-santonoxide (XI), that of VIII yielded an unsat. alc., elaster-12-ol (XII). Hydrogenation of 24.0 g. I, m. 171-2° in 200 ml. MeOH over 600 mg. Pd on BaCO₃ yielded 18.5 g. IIa, m. 158°, [α]_D 30°. Hydrolysis of the mother liquors yielded 2.85 g. (10.8%) 3-oxo-5-hydroxy-12-oxo-12-ol (b-series), m. 190-2° (from 50% MeOH), [α]_D 20.7°. The acid with p-MeC₆H₄SO₃H in AcOH gave 1.65 g. IIb, m. 163-5° (from 70% MeOH), [α]_D 11.3°. Hydrogenation of IIb over PtO₂ in AcOH gave IIIb, m. 213-15° (from MeOH), [α]_D -8.5°. Hydrogenation of 4 g. I in 40 ml. MeOH over Raney Ni W-1 (5 ml. alc. suspension) at room temp. and 120 atm. gave 4.1 g. glassy product, yielding on oxidation with CrO₃ and lactonization 2.8 g. IIa, m. 151-7°, [α]_D 28.1°. (4 g.) hydrogenated in 40 ml. MeOH over 0.2 g. PtO₂ at room temp. and 120 atm. gave 1.8 g. IIIc, m. 135° (from 50% MeOH), [α]_D 4.7°. Adding 252 mg. IIIc in 6 ml. AcOH to 70 ml. CrO₃ in 0.1 ml. H₂O, allowing the mixt. to stand 20 hrs. at room temp., dilg. with 6 ml. H₂O, evapg. *in vacuo*, dissolving the residue in H₂O, exg. with Et₂O, and evapg. the ext. gave IIc, m. 145-6° (from C₆H₆-petr. ether and from

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IIc), $[\alpha]_D^{25}$ 77.8°; an addnl. 650 mg. IIc was obtained by oxidation of the mother liquors after the pressure hydrogenation over PtO_2 . Chromatography of the mother liquors after the crystn. of IIc gave 620 mg. IIa, $[\alpha]_D^{25}$ 32.2°. Reducing 2.5 g. IIa with 8 g. Zn-Hg and 15 ml. HCl (1:2), refluxing the mixt. 12 hrs. with the addn. of 5 ml. portions of concn. HCl, and extg. the mixt. of sl. Et_2O gave 3.25 g. IVa, m. 164° (from 90% $EtOH$), $[\alpha]_D^{25}$ 26.8°. Similar treatment of IIb and IIc yielded 70% IVb, m. 80-7°, $[\alpha]_D^{25}$ -27.8°, and 46.5% IVa, $[\alpha]_D^{25}$ 28.2° (rearrangement owing to the acidic medium during the reduction). Treating 2.5 g. IIa in 40 ml. $AcOH$ with 0.90 ml. $(CH_3CO)_2O$ and 0.90 g. $p-MeC_6H_4SO_3H$ in 10 ml. $AcOH$ 3 hrs. at room temp., and pouring the rxn. onto ice gave 3.25 g. (99%) Va, m. 115-6° (from $AcOEt$), $[\alpha]_D^{25}$ 44.7°. Refluxing 1.03 g. Va in 120 ml. dioxane and 15 ml. Raney

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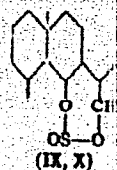
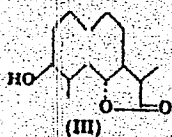
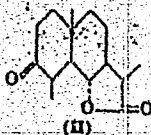
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NI in dioxane, 8 hrs., filtering off the catalyst, and evap. the solvent gave 1.16 g. IVa. Similar treatment of IIb and IIc gave 81% and 93.5% Vb and Vc, m. 124-3° (from Me. OH), $[\alpha]_D^{25}$ -11.08°, and 168-7° (from AcOEt), $[\alpha]_D^{25}$ 17.9°, resp., the desulfuration of which yielded 95% IVb, m. 86-7°, $[\alpha]_D^{25}$ -27.2°, and 89% IVc, m. 137-9° (from EtOH, (iso-Pr)₂O, and sublimation at 116°/12 mm.), $[\alpha]_D^{25}$ +9.2°, resp. Adding 11.8 g. IVa in 300 ml. Et₂O to 8.9 g. LiAlH₄ in 300 ml. Et₂O, stirring the mixt. 2 hrs. at room temp., decomp. with 0 ml. H₂O and 200 ml. 25% H₂SO₄ and extg. the diol with Et₂O gave 1.9 g. VIa, m. 134-6° (from C₆H₆), $[\alpha]_D^{25}$ -25.3°. Treating 481 mg. VIa with 6 ml. SOCl₂, distg. off the excess SOCl₂, dissolving the residue in 10 ml. C₆H₆-MeOH 1:1, evap. the soln. to dryness, and chromatographing over Al₂O₃ gave 410 mg. IX, m. 75-6° (from EtOH), $[\alpha]_D^{25}$ -25.3°. Treating 57 mg. IX in 1 ml. EtOH 24 hrs. with 0.9 ml. 5N NaOH at room temp., evap. the mixt. at 40°, dilg. with H₂O, and extg. with Et₂O gave 44 mg. VIa, $[\alpha]_D^{25}$ -24.8°. Heating 0.6 g. VIa in 12 ml. C₆H₆ with 0.1 g. p-MeC₆H₄SO₃H 30 min. on the steam bath, distg. off the solvent, dilg. the residue with 15 ml. H₂O, and extg. with Et₂O gave 460 mg. XI, b. 132-3°, d₄ 0.9788, n_D 1.4972, $[\alpha]_D^{25}$ -30.54°. Crude VII (12.2 g.), made by hydrogenation of 48.3 g. crude oil of *Isula helenifera* (3 kg. roots), recrystd. 3 times from EtOH gave 16.8 g. VII, m. 147-7.5°, $[\alpha]_D^{25}$ 14.0°. Reduction of VII with LiAlH₄ gave 63% VIII, m. 113-15° (from petr. ether-C₆H₆ 3:1), $[\alpha]_D^{25}$ -6.2° to -6.85°. VIII and SOCl₂ gave 47% IX, m. 114-16° (from EtOH), $[\alpha]_D^{25}$ -82.4°. Dehydration of VIII with p-MeC₆H₄SO₃H gave 88% XII (double-bond position uncertain), b. 133-5°, d₄ 0.9879, n_D 1.5078, $[\alpha]_D^{25}$ -32.7°. Infrared spectra of IIa,b,c,

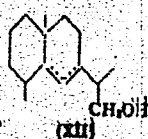
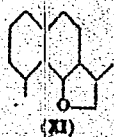
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Terpenes - Oclon Kovacs



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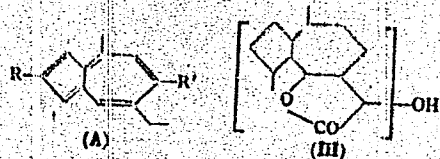
III, IV, b, c, VI, VII, VIII, XI, and XII are given. LXVII.
Formation of two tetraalkylazulenes in the working up of
wormwood. Milod Suchý, Vlastimil Herout, and František
Soták, *ibid.* 1870-8. Two new azulenes, *methylchamaecris-*
trane, $C_{15}H_{14}$ (I), and *ethylchamaecris-*, $C_{17}H_{16}$ (II), were
isolated during the working up of the wormwood by heating
with 10% NaOH and steam distn. of the acidified soln.
The crude mixt. of I and II was sepd. by countercurrent
extraction with equal parts of 82.5% H_3PO_4 and petr. ether
(b.p. 60-65°). Dlg. the H_3PO_4 fractions with H_2O and extg.
with petr. ether gave 0.16 g. I, b.p. 160°, R_f 0.741 (Nujol-
48% H_3PO_4); $C_{15}H_{14}$ (Nujol) compd., m. 150° (from EtOH).
I with $KMnO_4$ at room temp. gave AcOH and EtCO₂H;
hydrogenation in AcOH over PtO_2 gave $C_{15}H_{16}$ (5 double
bonds). From the petr. ether fractions was obtained 0.24 g.
II, b.p. 173°, $C_{17}H_{16}$ (Nujol) compd., m. 133° (from EtOH).
Oxidation with $KMnO_4$ yielded AcOH and EtCO₂H;
hydrogenation over PtO_2 in AcOH gave $C_{17}H_{18}$ (5 double
bonds). $\Delta(H) = 11.5$ (I) and $\Delta(H) = 11.5$ (II) and $\Delta(H) = 11.5$ (I)
are suggested (see Table I, resp.). Both azulenes are supposed
to be formed by the alkylation of hydroxyguaiadienolide
(III, with 2 double bonds) with CH_3O and AcH , resp., during
the alk. hydrolysis of crude wormwood (IV). In fact,
AcH was found in IV, and absinthin worked up in the

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presence of IV gave I and II. I and II were obtained, resp., by heating III or absinthin, with CH_3O and AcH , resp., in alk. solns. For comparison, 1,4-dimethyl-7-sec-butylazulene (V) and 1,4-dimethyl-3,7-dimethylazulene (VI) were prepd. Adding 2.2 g. 1,8-dimethylbicyclo[5.3.0]decan-5-ene in 30 ml. Et_2O to an ether soln. of MeEtCHLi prepd. from 27 g. sec-BuLi and 2.3 g. Li in 50 ml. petr. ether, refluxing the mixt. 1 hr., decomp. with H_2O and H_2SO_4 , extg. with Et_2O , and distg. the ext. gave 1 g. (30%) 1,8-dimethyl-5-sec-butylbicyclo[5.3.0]decan-5-ol (VII), b. 157° . Heating 1 g. VII 20 min. with 1.5 g. KHSO_4 at 180° gave 0.7 g. (78%) 1,8-dimethyl-5-sec-butylbicyclo[5.3.0]decan-5-ene, d. 0.8813, whose dihydrogenation by heating 10 min. at 180° with S yielded 11% V [(C₁₄H₁₆(NO)₂), compd., mp. 23° (from EtOH)]. Treating 0.4 g. chamazulene in 50 ml. CH_2Cl_2 48 hrs. at room temp. with 8.2 ml. Ac_2O and 1.5 ml. BF_3 .

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Et₂O, diss. the soln. with 250 ml. H₂O acidified with 1.5 ml. HCl, and chromatographing the residue after the evapn. of CH₂Cl₂ gave 0.25 g. 3-acetylchamazulene (VIII), m. 83°; C₁₅H₁₄(NO)₂ compd., m. 123° (from EtOH). Adding 0.15 g. LiAlH₄ to 0.22 g. VIII in 50 ml. Et₂O, decompr. the mixt. after 24 hrs. with 100 ml. H₂O, and chromatographing the residue after the evapn. of the Et₂O gave VI [C₁₅H₁₄(NO)₂ compd., m. 148° (from EtOH)]. Infrared spectra of I, II, their decahydro deriva., of V, and ultraviolet spectra of II, V, VI, and chamazulene are given. LXIX. The structure of dehydrocostuslactone. Miroslav Romahuk, Vlastimil Herout, and František Šolín. *Ibid.* 1879-85.—Extg. 248 g. Costus oil (from *Saussurea lappa*) in 250 ml. Et₂O with three 100-ml. portions of satd. NaHCO₃, acidifying the soln. with H₂SO₄, extg. with Et₂O, refluxing the evapd. ext. (3 g.) with 25 g. NaOH in 100 ml. H₂O and 250 ml. EtOH, diss. off the EtOH, diss. with 1 l. H₂O, extg. the neutral portions with 500 ml. Et₂O, acidifying the soln. with H₂SO₄, extg. with 500 ml. Et₂O, removing the phenols by extrn. with 5% NaOH, and evapg. the ether ext. to dryness in vacuo gave 11.4 g. cryst. dehydrocostuslactone (I), b.p. 140-3°, m. 61°, [α]_D²⁰ -12.9°; an addnl. 2.8 g. of I was obtained from the alk. washing. Heating 50 mg. I with 45 mg. Se 6 min. at 300° and chromatography gave chamazu-

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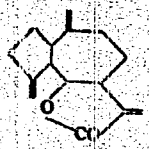
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Series (II). Hydrogenation of I in AcOH over PtO₂ gave the dihydrodihydrocyclooctatriene (III), b.p. 135-4°, d₄²⁰ 1.0541, n_D²⁰ 1.5076, [α]_D²⁰ 48.5°. Heating 11.4 g. III with 11.6 g. Se 17 hrs. at 30-5° removing periodically the distillate after 2, 3, and 6 hrs., chromatographing the crude product, and extracting the azulene fraction with 70% H₂PO₄ gave 180 mg. of a mixt. whose paper chromatography in 20% petroleum oil in petr. ether with 48% H₂PO₄ in ascending arrangement gave azulene, 3-phenylazulene, 20 mg. II [C₁₅H₁₂(NO)₂ compd., m. 130°], and 67 mg. of a new azulene, 3-phenylazulene (IV) [C₁₅H₁₂(NO)₂ compd., m. 112° (from EtOH)], to which the structure of 2,4-dimethyl-7-ethylazulene is ascribed. Oxidation of I showed the presence of 2,5-3,1 double bonds, and the following structure is therefore suggested for I:



M. Hudlicky

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[Signature]

06010-162785 KOVALES, O.

Stereochemistry of tropane alkaloids. VIII. Absolute configuration of nitrogen atoms in optically active tropanols derived from quaternary salts. Oleg Kovalev, Gabor J. Kende, *J. Org. Chem.* 1986, 51, 17, 3355-3360. The absolute configuration of the tropane alkaloids and hydrogen bonding in selective termination of optically active tropanes has been investigated with deuterated (I) and non-deuterated (II). The availability of optically pure I facilitated the differentiation of optically active N-epimers by IR measurements in anhydrous MeOH rather than by mp, density, and crystallography. I.HCl (41.5 g) was refluxed with 120 ml MeOH for 30 min, cooled, in vacuo to 50 mm, and the residue was washed with 20 ml H₂O and K₂CO₃ and dried with Et₂O. The residue gave 40.1 g of 3,3-dideuterio-N-methyl-N-(2-hydroxy-2-propyl)tropane (III), m. 155-156°C (decolor), $\alpha_D^{25} + 2.1^\circ$ (c 1.0, H₂O), n. 1.488 (decolor), $\alpha_D^{25} + 2.1^\circ$ (c 1.0, MeOH). A mixt. of 12.27 g. III and 32.1 g. ICH₃CO₂Et was heated in a sealed tube at 70°C for 48 hr., the product was washed with CHCl₃, dried and recryst. from EtOH-Et₂O to give 18.9 g. 3,3-dideuterio-N-methyl-N-(2-hydroxy-2-propyl)tropane (IV), m. 155-156°C (decolor), $\alpha_D^{25} + 2.1^\circ$ (c 1.0, MeOH). A suspension of alkali-free Ag⁺ (from 3.4 g. Ag₂O) in 100 ml. Et₂O was shaken with 4.0 g. IV 5 min and filtered. The filtrate was boiled 4 hr. with 50 ml. Et₂O, decolorized with C and evapd. Recrystn. of the residue from EtOH-Et₂O gave 2.32 g. N-methyl-N-(2-hydroxy-2-propyl)-2-hydroxymethyltropane (V), m. 210-211°C (decolor), $\alpha_D^{25} + 4.1^\circ$ (c 1.0, MeOH), converted by shaking with Et₂O to N-methyl-N-(2-hydroxy-2-propyl)-2-hydroxymethyltropane (VI), m. 272-273°C (decolor), $\alpha_D^{25} + 4.1^\circ$ (c 1.0, MeOH). III (38.3 g.) in 300 ml.

KORACS, O., FODOR, G., HALMOS, M.

CH₃CO₂H was added dropwise in 3 hrs. to 36 g. freshly distd. EtCN in 360 ml. anhyd. CH₂Cl₂. The soln. was refluxed 5 hrs. and evapd. to give 26.65 g. of low crystals, purified by washing and extd. with Et₂O 16 hrs. to yield 24.5 g. 3β-acetoxy-2β-hydroxymethyl-N-vinyl-1-pyrrolidone (VII), m. 103°, [α]_D²⁰ -72.4° (c 2.015), together with 8 g. III. A mixt. of 36 g. VII, 30 g. NaOH, and 350 ml. H₂O was refluxed for 8 hrs., acidified to Congo red with HCl and evapd. The residue was extd. with 8 portions of 100 ml. anhyd. alc., and the ext. concd. to 60 ml. and treated with the calcd. amt. of NaOMe. Evapn., extn. with 100 ml. CHCl₃ and disn. gave 3β-hydroxy-2β-hydroxymethyl-1-pyrrolidone (II), b. 148.5°; plate, m. 180° (from EtOH). II (19.1 g.), 12.83 g. 10% H₂CO₃Et₂ and 90 ml. anhyd. EtOH was kept at room temp. 30 hrs., evapd. in vacuo to a slurr and taken up in 150 ml. CHCl₃. The soln. was washed with H₂O, the washings were extd. with CHCl₃, and the combined CHCl₃ solns. were dried over MgSO₄, acidified with dry alc. HCl and evapd. Crystn. of the residue from EtOH-Et₂O yielded 12 g. N-ethoxycarbonylmethyl-3β-hydroxy-2β-hydroxymethyl-1-pyrrolidinium chloride (VIII), m. 195-6° (decompn.). [α]_D²⁰ -42.6° (c 2.015), converted to N-carboxymethyl-3β-hydroxy-2β-hydroxymethyl-1-pyrrolidinium chloride (VIIIa), m. 181° (decompn.), [α]_D²⁰ -45° (c 1.867), by refluxing 3 hrs. in 8 parts H₂O and 4 parts concd. HCl. VIIa (2.2 g.) in 20 ml. H₂O was shaken 5 min. with 3.1 g. freshly pred. Ag₂O, filtered over C and evapd. in vacuo to give the betaine (VIIIb), m. 247° (decompn.), [α]_D²⁰ -64.1° (c 1.932). VIII (2.78 g.) and 2 ml. Ag₂O were heated 4 hrs. on the steam bath, kept overnight at room temp. and concd. in vacuo. Crystn. of the residue from Me₂CO. Et₂O gave 2.64 g. 3β-acetoxy-2β-hydroxymethyl-N-ethoxycarbonylmethyl-1-pyrrolidinium chloride (VIIIc), m. 184°, [α]_D²⁰ -38.4° (c 1.971). A mixt. of 1.810 g. VIIIc in 10

2/3

KOVACS, O.

New syntheses of ($\pm$)phenylalaninol. In English.

p. 111. (ACTA UNIVERSITATIS SZEGEDIENSIS) Vol. 2, no 1/4, 1956
Szeged, Hungary

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

KOVACS, O.

KOVACS, O. On terpenes. LXVII. Hydrogenation products of santonin and alantolactone. In English. p. 225. Vol 21, No. 4, Feb. 1956. SPORNIK CHEKHOSLOVATSKIKH KHIMICHESKIKH RABOT. COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS. Praha, CZECHOSLOVAKIA.

SOURCE: EAST EUROPEAN ACCESSIONSLIST (EEAL) Vol. 6, No. 4, April 1957

HUNGARY/Organic Chemistry. Natural Substances and Their
Synthetic Analogues.

G

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74183.

Author : O. Kovacs, M. Halmos, G. Bernath.

Inst : ~~unclassified~~

Title : Resolution of DL-Proline and DL-Hydroxyproline.

Orig Pub: Acta phys. et chem. Szeged, 1957, 3, No 1-4, 118-121.

Abstract: DL-proline (I) and DL-hydroxyproline (II) were re-
solved into D- and L- isomers as brucine salts of
3,5-dinitrobenzoil derivatives of I and II. The
solution of 24 g of brucine tetrahydrate (IV) in
100 ml of acetone (III) is added to the solution
of 15.84 g of 3,5-dinitrobenzoyl-I in 100 ml of
III, the solvent is distilled off and the residue
is dissolved in 480 ml of water; 3,5-dinitrobenzoyl-

Card : 1/5

HUNGARY/Organic Chemistry. Natural Substances and Their
Synthetic Analogues.

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74183.

D-proline-IV (V) falls out, melt. p. 111 to 112°
(from water), $[\alpha]_D^{25} = +31.5^\circ$ (c + 1.018;
abs. alc.). 1 n. NaOH is added to the solution of
17.54 g of V in 486 ml of hot water, 8.4 g of IV
is separated, after extraction with ether, the
mother liquor is acidified with concentrated HCl
to pH = 6; 24 hours later 3,5-dinitrobenzoyl-D-
proline (VI) falls out at 3°, yield 62%, melt. p.
179°, $[\alpha]_D^{25} = +94.8^\circ$ (c = 1.292; 50%-ual
alc.). VI is hydrolyzed with 5 n. HCl and D-proline
(VII) is separated on Ionite LR-4R, yield 82%,
melt. p. 215 to 220° (dissociates), $[\alpha]_D^{25} =$
+81° (c = 0.5; water). The mother liquors are con-
densed and seasoned several hours at 3° with 1 n.

Card : 2/5

HUNGARY / Analytical Chemistry--Analysis of
organic substances.

E-3

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 38379

Author : Matkovich, B.; and Kovacs, Oe.

Inst : Not given

Title : The Chromatographic Separation of Isomers of
3-Granatanol

Orig Pub : Acta Phys et Chem Szeged, 4, No. 1-2, 66-68
(1958) (in German)

Abstract : The authors have proposed a method for the quan-
titative separation of α -3-granatanol (I) and
B-3-granatanol (II) by passing an ashless mixed
solution through a column packed with Al_2O_3 .
I is completely eluted with petroleum ether and
the II left on the column can be eluted with
methanol. The eluates are evaporated to dryness,

Card 1/2

KOVACS, O.

7
Oxidations with cerium(IV) salts in organic chemistry.
Odon Kovacs and Gabor Bernáth (Univ. Szeged, Hung.).
CHEMIS (Pitts) 10, 1023-D (1988).—A review with 78 references on the use of Ce(IV) salts in org. analysis and in preparative org. chemistry. Reaction kinetics are mentioned. High redn. oxidn. potential can be controlled by selecting the nature and concn. of the anion. Ce(IV) salts are proposed as selective oxidants for the prepn. of quinones.
I. M. Hall

4

989

COUNTRY : Hungary
 CATEGORY :
 ABS. JOUR. : RZKhim., No. 21 1959, No. 74771
 AUTHOR : Herout, V. and Kovacs, O.; Kovacs, O.
 INST. : Not given
 TITLE : Preparation Work with Small Quantities of Organic Reagents. I, II.
 ORIG. PUB. : Magyar Kem Lapja, 13, No 3, 61-67 (1958)
 ABSTRACT : The authors review and discuss in detail techniques and practices developed and perfected at the Chemical Institute of the Czech Academy of Sciences. The bibliography lists 62 titles.
 I. Krishtofori

CARD: 1/1

95

7 Modern methods of organic chemistry. II. Organic preparative work with limited amounts of material. 1. J. K. Vlastimil (Czech. Akad. Chem., Prague) and O. Kovacs. Magyar Kem. Lapja 13, 161-7 (1958). --A review with 31 references. P. M. B.

KOVACS, O.

TECHNOLOGY

PERIODICAL: MAGYAR KEMIKUSOK LAPJA. Vol. 13, no. 9, Sept. 1958

Kovacs, O. Organic preparative work with small amounts of substance.
IV. p. 324.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

PUNGOR, Erno; KOVACS, Odon

An account of the 1961ACHEMA exhibition. II. Devices of chemical and physico-chemical analysis. Magyar Kem Lap 17 no.5:227-232 My '62.

1. Eotvos Lorand Tudományegyetem Szervetlen és Analitikai Kémiai Intézete (for Pungor). 2. Szegedi Tudományegyetem Szerves Kémiai Intézete (for Kovacs).

H/005/63/000/001/003/003
D249/D307

AUTHORS: Kovács, Ödön, Tuba, Zoltán, Weisz, Imre and Schneider, Gyula

TITLE: Chemistry of trimethylene oxide derivatives I. Cis- and trans-7-oxabicyclo(4,2,0.) octane (A)

PERIODICAL: Magyar Kémiai Folyóirat, no. 1, 1963, 37-41

TEXT: Preparation of the cis- and trans-modifications of A was attempted, under stereochemically controlled conditions. Cis 2-oxy-methyl cyclohexanol was prepared by the method of Mannich and Brose; the diacetate of the trans compound was prepared by the method of Matti, which was then transformed to the corresponding diol. Crystalline cis- and trans-2-p-toluenesulphonyloxymethyl cyclohexanols were then prepared. To close the rings the cis- and trans-monotoluenesulphonic esters were dissolved in ether and the solution was added dropwise to concentrated aq. KOH. After distillation a product with the composition of $C_7H_{12}O$ was obtained, which did not con-

Card 1/2

Chemistry of trimethylene ...

H/005/63/000/001/003/003
D249/D307

tain active hydrogen. The ir spectrum of this compound showed a strong absorption band at 950 cm^{-1} , characteristic of cyclic ethers. The second fraction (12.7%) was found to be largely 2-methylene-cyclohexanol, and the third fraction (21.8%) a dimer with the composition of $\text{C}_{14}\text{H}_{24}\text{O}_2$ whose structure is now studied. To establish structure of the cis- and trans-7-oxa-bicyclo(4,2,0)octane, both compounds were dissolved in absolute ether and treated, at room temperature, with p-toluenesulphonic acid. The resulting oily products were reacted with trimethylamine. Both products of this reaction were tested by paper chromatography. The establishment of configuration is discussed. There is 1 table.

ASSOCIATION: Szegedi Tudományegyetem Szerves Kémiai Intézete (Department of Organic Chemistry, University of Szeged)

SUBMITTED: May 22, 1962

Card 2/2

KOVACS, Odon, a kémiai tudományok kandidátusa

An account of my study trip to the Soviet Union. Kem tud
kozl MTA 20 no.1:89-91 '63.

I. Szegedi Jozsef Attila Tudományegyetem Szerves Kémiai
Tanszeke, Szeged.

SHUIMIN, N.I. [Shuykin, N.I.]; KOVACS, Odon, dr.; BELSKII, I.P. [Belskiy, I.P.]
BARTOK, Mihaly.

Catalytic and thermic conversions of cyclic ethers. Acta chimica
Hung 38 no.2:115-121 '63.

1. Institute of Organic Chemistry N.D. Zelinskii of the Academy of Sciences of the USSR, Moscow (for Shuykin and Belskiy).
2. Institute of Organic Chemistry, University of Szeged, Szeged, Beloiannisz ter 8 (for Kovacs and Bartok).

KOVACS, Odon; TUBA, Zoltan; WEISZ, Imre; SCHNEIDER, Gyula

Chemistry of trimethylene-oxide-derivatives.I. Magyar kem
folyoir 69 no.1:37 Ja '63.

1. Szegedi Tudományegyetem Szerves Kémiai Intézete.

HUNGARIAN

SHUIKIN, N.I., KOVACS, O., PELSKII, I.F., BARTOK, M.; Institute of Organic Chemistry N.D. Zelinskii of the Academy of Science of the USSR, Moscow and Institute of Organic Chemistry, University of Szeged [original language versions not given].

"Catalytic and Thermic Conversions of Cyclic Ethers."

Budapest, Acta Chimica Academiae Scientiarum Hungaricae, Vol 38, No 2, 1963, pages 115-121.

Abstract: [English article, authors' English summary] Results of joint investigations, obtained thus far, lead to the conclusion that a/ the direction of the hydrogenolysis of α -substituted cyclic ethers depends on the number of members in the ring, on the nature of the substituents, on the applied pressure and mainly, on the nature of the catalyst used; b/ that the thermolysis of α -substituted oxethanes is independent of the nature of the substituent and of the applied packing; c/ that the catalytic isomerization of α -substituted oxethanes is accompanied by the cross-splitting of the ring. 9 Eastern European, 7 Western references.

1/1

2

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825510008-2"

Chemistry of trimethylene-oxide derivatives. Pt. 2. Magyar kémiai közlöny 70 no. 5: 223-226 Magyar '64.

1. Institute of Organic Chemistry, Attila Jozsef University, Szeged.

SCHNEIDER, G.; KOVACS, O.; CHINORAI, M.

Synthesis of m-dioxans. Acta phys chem Szeged 10 no.3/4:95-104 '64.

1. Institute of Organic Chemistry of Attila Jozsef University, Szeged (for Schneider and Kovacs). 2. Varnish and Paint Factory, Budapest (for Chinorai).

WEISZ, L.; KOVACS, O.

Preparation of pregnadienolone-20-¹⁴C. Acta phys ochem
Szeged 10 no.3/4:107 '64.

1. Institute of Organic Chemistry of Attila Jozsef University,
Szeged.

KOVACS, Odon; SZILAGYI, Janos; SCHNEIDER, Gyula

Chemistry of trimethylene oxide derivatives. Pt. 3. Magyar
folyoir '71 no.3:93-98 Mr '65.

1. Chair of Organic Chemistry of Attila Jozsef University, Szeged,
and Research Institute of Organic Chemical Industry, Budapest.
Submitted May 23, 1964.

KOVACS, Odon L.

all filed under KOVACS, L. Odon

Kovacs, P.

Possibilities of development of iron stove manufacture. p. 390

ENERGIA ES ATOMTECHNIKA. (Energiagazdalkodási Tudományos Egyesület)
Budapest, Hungary. Vol. 12, no. 7/8, July/August 1959

Monthly List of East European Accessions (KEAI) LC, Vol. 8, no. 11
November 1959
Uncl.

RUMANIA / General Problems of Pathology. Shock.

U-4

Abs Jour : Ref Zhur - Biol., No. 10, 1958, No. 46767

Author : Kovacs, P.; Szabo, St.; Demeter, A.

Inst : ~~Not given~~

Title : Cardiac Activity in Hemolytic Shock

Orig Pub : Fiziol. norm. si patol., 1957, 4, No. 4, 328-336.

Abstract : Upon administration of a suspension of human erythrocytes (HE) into the right atrium cordis of the cardiopulmonary system of a dog, the frequency and the amplitude of heart contractions, as well as the arterial pressure diminish. These changes are weaker if HE is introduced into the pulmonary artery. Plasma does not cause such reactions. Thus, heterogenic erythrocytes directly influence cardiac activity.

Card 1/1

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SZABO, I.; DEMETER, A.; KOVACS, P.

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825510008-2

Effect of heterologous blood on denervated dog heart preparation. Kiserletes orvostud. 10 no.4:420-426 Aug 58.

1. Marosvarsarhelyi Orvostudományi Intézet Eletani Tanszéke.

(HEART, physiol.

heart-lung prep. of dogs, denervated, eff. of human blood (Hun))

KOVACS, P.

ACCESSION NR: AP4036475

G/0030/64/005/002/0367/0371

AUTHOR: Petrescu, P.; Kovacs, P.

TITLE: Exo-electronic emission from electroluminescent single crystals of ZnS

SOURCE: Physica status solidi, v. 5, no. 2, 1964, 367-371

TOPIC TAGS: ZnS, electroluminescence, ZnS single crystal, exo-electron, electron emission ZnS, trap centre electron, ZnS crystal Cu doped

ABSTRACT: Exo-electron emission and electroluminescence of ZnS single crystals are investigated as functions of applied voltage and of location on the crystal. In agreement with earlier quoted literature a significant correspondence between the two effects has been observed both with respect to changes with electric field dependence and in the spatial distribution. The crystals used had lamellar surfaces (perpendicular to crystallographic "c" axis) of about 1 cm², thickness of about 5 mm, and a resistance of the order of 10⁹ Ω. The crystals were given silver contacts and could withstand voltages of the order of 10² - 10³ V. There are strong indications that the common cause of the effects observed is electrons which, having acquired high energies (higher than those of the forbidden band gap) from the electric field, are stopped by specific capture centers. The exo-electron emission

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ACCESSION NR: AP4036475

intensity plot versus voltage shows a maximum which is enhanced by doping with Cu-ions. This result, if preliminary, may point the way for future studies of capture centers. Orig. art. has: 8 figures. "The authors here express sincere thanks to Mr. A. Bohun for his valuable suggestions given in the course of this research."

ASSOCIATION: Institut de Physique de l'Academie de La RPR, Bucharest (Institute of Physics of the Academy of the People's Republic of Rumania)

SUBMITTED: 03Mar64

DATE ACQ: 20May64

ENCL: 00

SUB CODE: PE

NO REF SOV: 000

OTHER: 008

Card 2/2

KOVACS, P.

Tylgyessy, J. Making the action of ultrasonic waves visible. p. 606.
TECHNICKA PRACA, Bratislava, Vol. 6, No. 10, Oct. 1954.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6,
June 1956, Uncl.

KOVACS, P.

CZECHOSLOVAKIA /Physical Chemistry. Radiation Chemistry,
Photochemistry, Theory of Photographic Process.

B-10

Abs J ur : Ref Zhur - Khim., No 10, 1958, No 31834

Author : J. Tolgyassy, P. Kovacs.

Inst : -

Title : Upon the Use of Thermochromatic Properties of Ag_2/HgI_4
for Supersonic Detection.

Orig Pub : Chom. zvesti, 1955, 0, No 5, 306-309.

Abstract : New methods of preparing supersonic indicators based on
the change of $\text{Ag}_2(\text{HgI}_4)$ color are described. The best
results were obtained by the application of methylmetha-
crylate as a dispersion medium on an acetylcellulose film.

Card 1/1

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APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825510008-2"

KOVACS, P., TOLGYASSY, J.

Searching for deficiencies in metallic objects using Geiger-muller counters
with radioactive elements. p. 11.

Vol. 8, no. 1, Jan. 1956
TECHNICKA PRACA
Bratislava, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

CZECHOSLOVAKIA

F. KOVACS and Z. NAGYIVA, Department of Biochemistry and Microbiology,
Faculty of Pharmacy Comenius University, Bratislava.

"Metabolism of Phenylalanine and Tyrosine in Barley."

Prague, Cerkealovenska Farmacie, Vol 12, No 1, Jan 1963; pp 32-35.

Abstract [English summary modified]: Phenylalanine is not a tyrosine precursor during first 10 days of growth of *Hordeolua vulgare* L., but shikimic acid is. Two graphs, table; 25 references: 20 Western, Polish, Bulgarian, Hungarian; Czech thesis.

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PSENAK, M.; WOITOWITZ, D.; KOVACS, P.; JINDRA, A., prof. Dr.Mr.,
(Bratislava, Kalinciakova 8)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825510008-2

Sugar in wood avens (*Oxum urbanum*). Cesk. farm. 14 no.8:397-401
O 1965.

1. Katedra biochemie a mikrobiologie Farmaceutickej fakulty
Univerzity Komenského, Bratislava. Submitted June 4, 1965.

LINDVAY, E.; SCHANDA, J.; RICHTER, K.; KOVACS, P.; SOMOGYI, M.

On the luminescent properties of ZnS phosphors prepared at the room temperature. Chekhosl fiz zhurnal 13 no.2:142-147 '63.

1. Research Institute for Technical Physics, Hungarian Academy of Sciences, Budapest, Hungary.

NOVACS, Pal

Study of p^H changes occurring at the wet grinding of ceramic stuffs and glazes. Epitoanrag 13 no.11:433-435 N '61.

KOVACS, P.; FABO, F.

Balneotherapy in the treatment of bone tuberculosis. Orv. hetil.
93 no. 35:1012-1014 31 Aug 1952. (CJML 23:5)

1. Doctors. 2. Hodmezovasarhely General Hospital (Director -- Dr.
Pal Ormos), Kiskasszei Bone Tuberculosis and Lung Surgery Department (Head Physician -- Dr. Tibor Risko).

KOVACS, P.; FALO, F.

Preliminary results of isonicotinic acid hydrazide therapy of osseous tuberculosis. Orv. hetil. 94 no.19:524-526 10 May 1953. (CI ML 25:1)

1. Doctors. 2. Kakasszei Bone Tuberculosis Surgery Department (Head Physician -- Dr. Pal Kovacs), Hodmezovasarhelyi Municipal Council Hospital (Director - Head Physician -- Dr. Pal Ormos).

EXCERPTA MEDICA Sec.15 Vol.10/5 Chest Diseases May57

1203. KOVÁCS P. and HEVÉR O. A hódmezővásárhelyi Városi Tanács Kórház Lab., Kakasszéki Csont és Tüdősebészeti Oszt., Közlemenye. *Csont és ízületi gümőkórosek savófehérjevizsgálata elektroforézissel. Electrophoretic investigation of the serum proteins in bone and joint tuberculosis. I. Investigation on the specificity of the results obtained in tuberculous bone and joint lesions ORV.HETIL.1956, 97/8 (213-215) Graphs 3

Different bone and joint diseases give different types of curves in electrophoresis. In the exudative phase alphaglobulin, and in the proliferative phase beta and gammaglobulins predominate. The ratio α/β reproduces the phasic change accurately. Electrophoresis provides reliable data and is more sensitive than the E. S. R. The findings in electrophoresis, judged by the results so far obtained by the author, do not provide a reliable basis for the early diagnosis of bone and joint tuberculosis and for the differential diagnosis of specific and ordinary osteomyelitis.

KOVACS, Pal

~~Postpartum~~ Postpartum tuberculous spondylitis. Orv hetil 95 no.14:392-393
Ap '54. (REAL 3:8)

1. A Hodmezovasarhelyi Varosi Tanacs Koshaza (igazgato: Ormos Pal
dr.) Kakasszekei Tudosebesseti es Csontgumokoros Osztalyanak
(fuorvos: Kovacs Pal dr.) kozlemenye.

(TUBERCULOSIS, SPINAL

*postpartum)

KOVACS, Pal., dr.

Pathogenesis and therapy of tuberculous processes in the chestwall. Tuberk. kerdesei 9 no.1:40-42 Feb 56.

1.A hodmezovasarhelyi Korhaz (igazgato foorvos: Ormos Pal dr.)
Kakasszeki Csontgumakoros es Tudosebeszeti Oasztalya (foorvos:
Kovacs Pal dr.) kozlemenye.

(TUBERCULOSIS, PULMONARY, compl.

tuberc. processes in chestwall, pathogen. & ther. (Hun))

KOVACS, Pal, dr.; HEWER, Odon, dr.

Investigation of blood proteins in osteoarticular tuberculosis by electrophoresis; I. Investigations on the actual state of osteoarticular tuberculous processes. Orv. hetil. 97 no.8: 213-215 19 Feb 56.

1. A Hodmezovasarhelyi Varosi Tanacs Korhaz Laboratoriuma (igaz.: -foorvos: Ormos, Pal dr.) es a Makasszei Csont es Tudosehesseti Osztalyanak (foorvos: Kovacs, Pal dr.) Kozl.
(TUBERCULOSIS, OSTEOARTICULAR, blood in
blood protein fractions, electrophoresis (Hun))
(BLOOD PROTEINS
fractions, electrophoresis in osteoarticular tuberc.
(Hun))
(ELECTROPHORESIS
of blood protein fractions in osteoarticular tuberc.
(Hun))

KOVACS, Pal, dr.,; SOFALVI, Csaba, dr.,; SIMON, Janos, dr.

Spondylodesis in the therapy of spinal tuberculosis. Orv. hetil.
97 no.9:236-239 26 Feb 56

1. A Hodmezovasarhelyi Varosi Tanacs Korhaza (igazato-foorvos: Ormos
Pal dr.) Kaktaszeki Csontgumokoros es Tudosebeszeti Osztalyanak
(foorvos: Kovacs Pal dr.) kozlemenye.

(TUBERCULOSIS, SPIHAL, surg.

spondylodesis, indic., technic & results (Hun))

HEVER, Odon, Dr.; KOVACS, Pal, Dr.

Study of serum proteins in osteoarticular tuberculosis by electrophoresis; nursing the course of bones and tuberculotic processes and effect of surgery on protein fractions. Tuberkulozis 11 no.1-2:17-23 Jan-Feb 58.

1. Az All. Fodor Jozsef Tbc. Gyógyintézet (Igazgató: Riskó Tibor dr.) Laboratóriuma (Főorvos: Hever Odon dr.) és Hodmezővásárhelyi Városi Tanács Kórháza (Igazgató: Fugl Karoly dr.) Kakasszéki Csont-és tudóssészeti osztályának (Főorvos: Kovacs Pal dr.) közleménye.

(TUBERCULOSIS, OSTEOARTICULAR, blood in protein determ. at various stages of dis. by electrophoresis & eff. of surg. (Hun))

KOVACS, Pal, dr.; GERENTAS, Mihaly, dr.

Arthroplasty with fibrin cap in tuberculous coxitis. Orv.hetil.
101 no.39:1387-1389 25 S '60.

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(SOIL MICROBIOLOGY) (STREPTOMYCES)
(ANTIBIOTICS) (RADIATION EFFECTS)
(ANTINEOPLASTIC AGENTS) (MYCOBACTERIUM)
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(LIPIDS, metab.

kidney & liver in pyelonephritis in rabbits (Cz))

(KIDNEYS, metab.

lipids in pyelonephritis in rabbits (Cz))

(LIVER, metab.

same)

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(LIPIDS metab.)

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